SSC8L60GT8

N-Channel Enhanced MOSFET

➢ Features

VDS	VGS	RDSON Typ.	ID
60V	±20V	3mΩ@10V	120A
		5mΩ@4.5V	

➢ Description

This device is N-Channel enhancement MOSFET. Uses advanced trench technology and design to provide excellent RDSON with low gate charge. This device is suitable for use in DC-DC conversion, power switch and charging circuit.

100%UIS Test.

➢ Applications

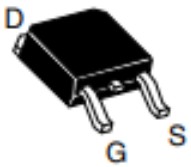
- DC/DC converters
- Power supplies
- Motor Drive Control
- Synchronous rectification

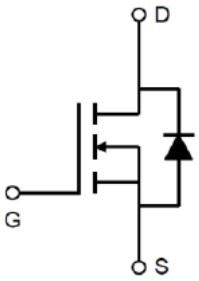
➢ Ordering Information

Device	Package	Shipping
SSC8L60GT8	TO-252	2500/Reel

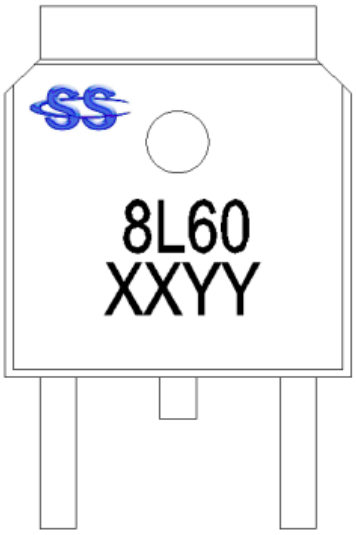
➢ Pin configuration

Top view





TO-252-3



Marking

（XX：product year / YY：product week）

➢ Absolute Maximum Ratings(T_A=25℃ unless otherwise noted)

Symbol	Parameter		Ratings	Unit
V_{DSS}	Drain-to-Source Voltage		60	V
V_{GSS}	Gate-to-Source Voltage		±20	V
I_D	Continuous Drain Current [d]	T_C=25℃	120	A
		T_C=100℃	60	
I_{DSM}	Continuous Drain Current [a]	T_A=25℃	35	A
		T_A=70℃	25	
I_{DM}	Pulsed Drain Current [b]		480	A
P_D	Power Dissipation [c]	T_C=25℃	69	W
		T_C=100℃	27	
P_{DSM}	Power Dissipation [a]	T_A=25℃	5.9	W
		T_A=70℃	3.8	
I_{AS}	Avalanche Current [b] L=0.5mH Single Pulse		50	A
E_{AS}	Avalanche Energy [b] L=0.5mH Single Pulse		625	mJ
T_J	Operation junction temperature		-55~150	℃
T_{STG}	Storage temperature range		-55~150	

➢ Thermal Resistance Ratings(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Ratings	Unit
$R_{\theta JA}$	Junction-to-Ambient Thermal Resistance [a]	21	℃/W
$R_{\theta JC}$	Junction-to-Case Thermal Resistance	1.8	

Note:

a. The value of $R_{\theta JA}$ is measured with the device mounted on 1 in^2 FR-4 board with 2oz.copper, in a still air environment with T_A=25℃.The value in any given application depends on the user is specific board design. The power dissipation is based on the t ≤10s thermal resistance rating.

b. Repetitive rating, pulse width limited by junction temperature.

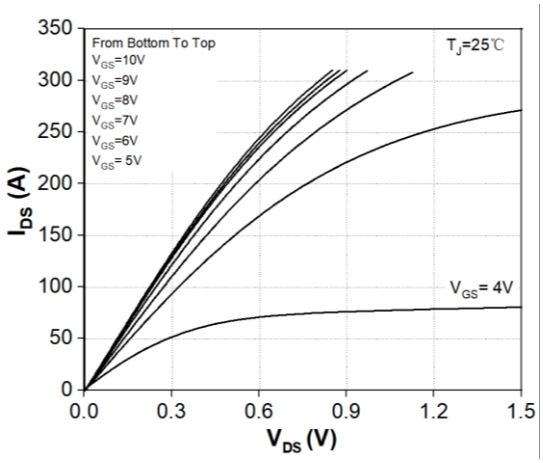
c. The power dissipation P_D is based on $T_{J(MAX)}$=150°C, using junction-to-case thermal resistance, and is more useful in setting the upper dissipation limit for cases where additional heat sinking is used.

d. The maximum current rating is package limited.

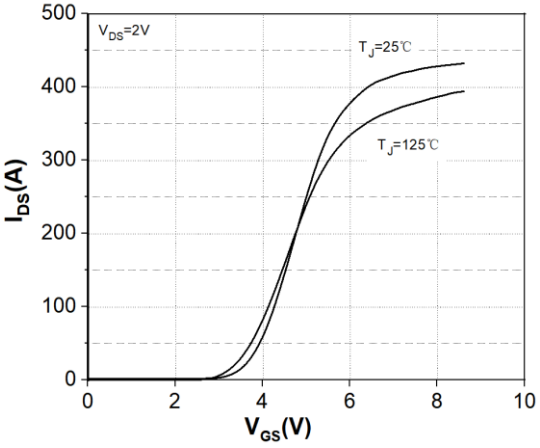
➢ Electronics Characteristics(T_A=25℃ unless otherwise noted)

Symbol	Parameter	Test Conditions	Min	Typ.	Max	Unit
$V_{(BR)DSS}$	Drain-Source Breakdown Voltage	VGS=0V ,ID=250uA	60			V
$V_{GS\ (th)}$	Gate Threshold Voltage	VDS=VGS ,ID=250uA	1	2	2.5	V
$R_{DS(on)}$	Drain-Source On-Resistance	VGS=10V , ID=30A		3	4	mΩ
		VGS=4.5V , ID=20A		5	6.5	
I_{DSS}	Zero Gate Voltage Drain Current	VDS=48V ,VGS=0V			1	uA
I_{GSS}	Gate-Source leak current	VGS=±20V ,VDS=0V			±100	nA
G_{FS}	Transconductance	VDS=5V ,ID=20A		42		S
V_{SD}	Forward Voltage	VGS=0V , IS=20A		0.8	1.3	V
Rg	Gate Resistance	VDS=0V, f=1MHz		1		Ω
Ciss	Input Capacitance	VDS=30V , VGS=0V, f=1MHz		5300		pF
Coss	Output Capacitance			870		
Crss	Reverse Transfer Capacitance			61		
$T_{D(ON)}$	Turn-on delay time	VGS=10V, RL=2.5Ω VDS=30V , RG=3Ω		21		ns
Tr	Rise time			29		
$T_{D(OFF)}$	Turn-off delay time			59		
Tf	Fall time			25		
Q_G	Total Gate Charge	VGS=10V, VDS=30V ID=20A		85		nC
Q_{GS}	Gate Source Charge			21		
Q_{GD}	Gate Drain Charge			15		
Trr	Diode Recovery Time	IF=20A , di/dt=500A/us		35		ns
Qrr	Diode Recovery Charge	IF=20A , di/dt=500A/us		70		nC

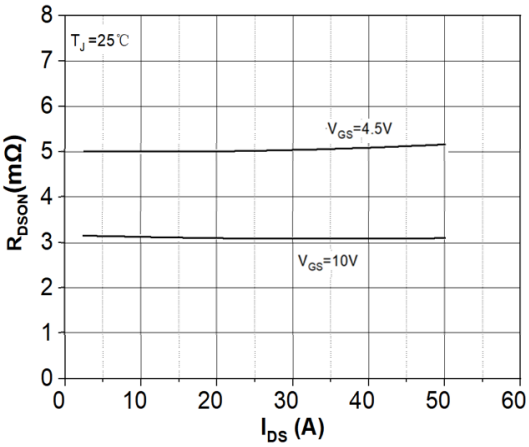
➢ Typical Characteristics(T_A=25℃ unless otherwise noted)



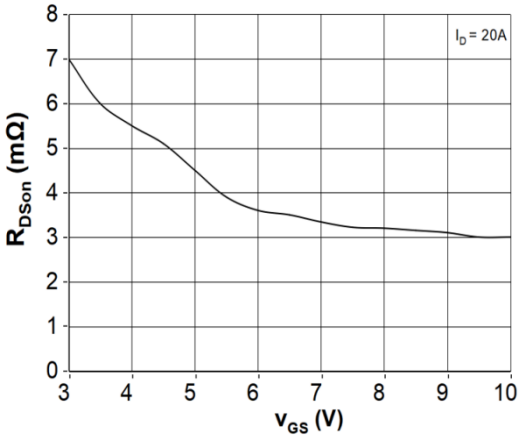
Output Characteristics@Tj= 25℃



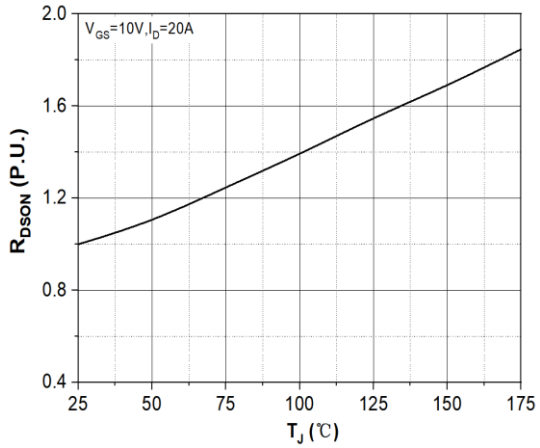
Transfer Characteristics@Tj= 25/125℃



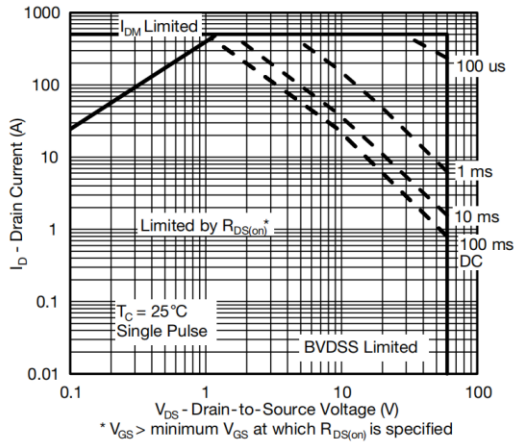
On-Resistance vs. Drain Current



On-Resistance vs. Gate-to-Source Voltage

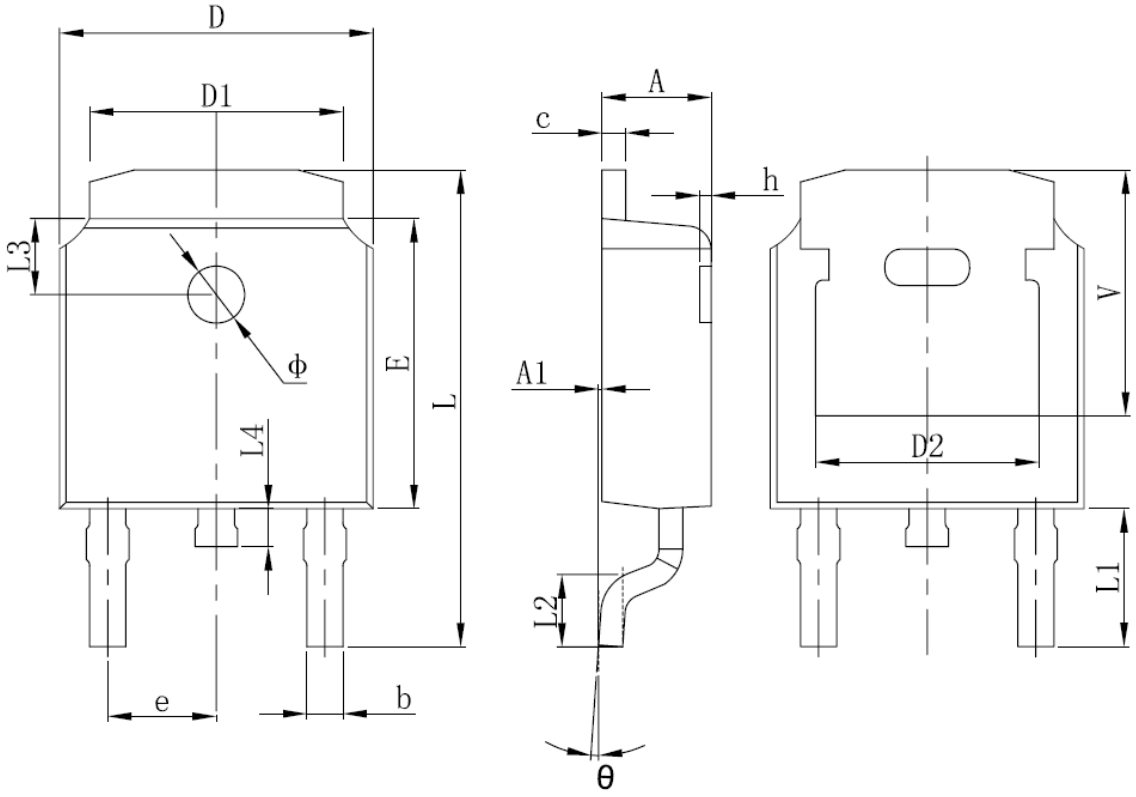


On-Resistance vs. Junction temperature



Safe Operating Area

➢ Package Information



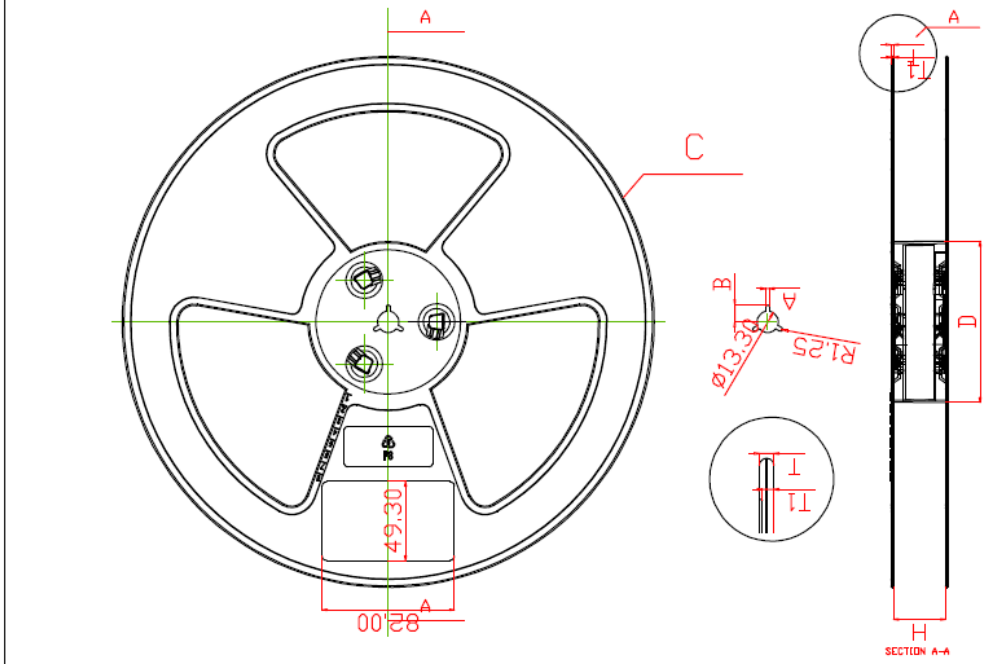
Package：PDNF5X6-8L

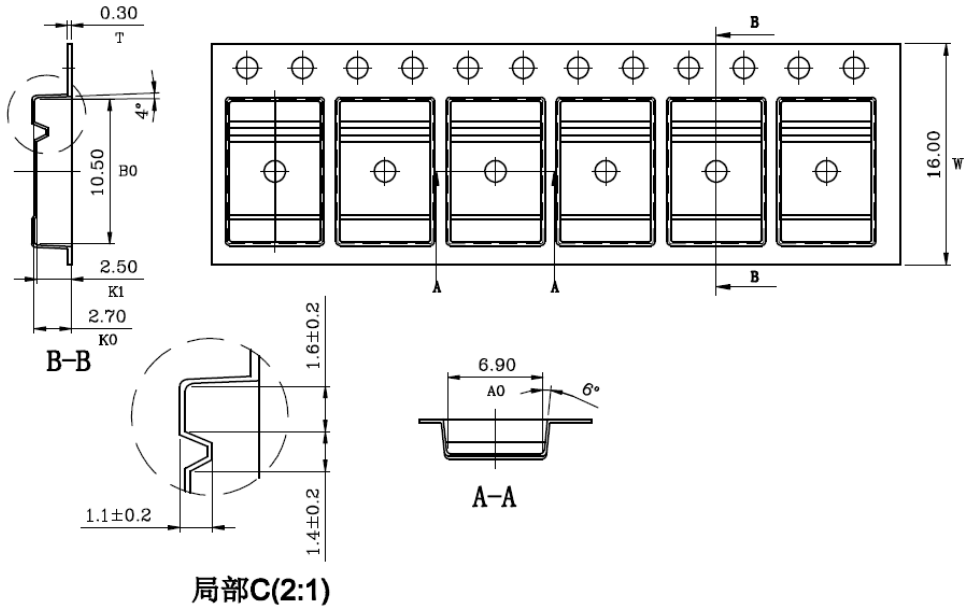
Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min.	Max.	Min.	Max.
A	2.200	2.400	0.087	0.094
A1	0.000	0.127	0.000	0.005
b	0.635	0.770	0.025	0.030
c	0.460	0.580	0.018	0.023
D	6.500	6.700	0.256	0.264
D1	5.100	5.460	0.201	0.215
D2	4.830 REF.		0.190 REF.	
E	6.000	6.200	0.236	0.244
e	2.186	2.386	0.086	0.094
L	9.712	10.312	0.382	0.406
L1	2.900 REF.		0.114 REF.	
L2	1.400	1.700	0.055	0.067
L3	1.600 REF.		0.063 REF.	
L4	0.600	1.000	0.024	0.039
Φ	1.100	1.300	0.043	0.051
θ	0°	8°	0°	8°
h	0.000	0.300	0.000	0.012
V	5.250 REF.		0.207 REF.	

➢ Tape and Reel

材质：PS　　**未标注公差：**± 0.2

H	12	16	24	32
C±0.2	330	330	330	330
T1±0.2	1.45	1.45	1.45	1.45
B±0.2	10.7	10.7	10.7	10.7
A±0.2	2.5	2.5	2.5	2.5
T±0.2	1.85	1.85	1.85	1.85
D±0.2	100	100	100	100





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